J.R. Simplot Company
P.O. Box 912,
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208 235-5600 Business

May 29, 2020

Arthur Burbank
USDA Forest Service
4350 South Cliffs Dr.
Pocatello, ID 83204

Subject: Biological Selenium Removal Treatment Technology
Water Treatment Pilot Study
April 2020 Progress Report

Dear Art,

This progress report summarizes key activities in April 2020 associated with Phase 2 of the Water Treatment Pilot Study located near Hoopes Spring. This Pilot Study is being conducted as part of the Smoky Canyon Mine Remedial Investigation/Feasibility Study (RI/FS) to provide information on the effectiveness of the active biological treatment system in removing selenium and other COPCs from South Fork Sage Creek Springs and Hoopes Spring.

Work related to the approved Phase 2 Pilot Study continues at the site in accordance with the Final *Phase 2 Pilot Study Work Plan and Sampling and Analysis Plan, Ultra-Filtration/Reverse Osmosis and Biological Selenium Removal Fluidized Bed Bioreactor Treatment Technology* (Phase 2 WP/SAP).

Identification of Deliverables and Data Transmittals

There were no outstanding deliverables or transmittals for the month of April. At the time of this report, we have received laboratory data for Weeks 111 and 1113. Preliminary laboratory data are presented in Table 1. The field data for the Weeks 111 and 113 sampling events is summarized in Table 2.

Completed Activities

The following activities associated with the Phase 2 Pilot Study were completed in April 2020:

- Continued system operation and treatment of selenium.

The Treatment System Pilot (TSP) influent total selenium concentration for Week 111 was 169 ug/L and Week 113 was 170 ug/L. The Treatment System Pilot effluent total selenium concentration for Week 111 was 26.8 ug/L and Week 113 was 27.1 ug/L. The average removal efficiency for April was approximately 83% for total selenium removal.

The average flow of the TSP for the month of April was 1,782 gpm. Since full scale operations began in early December 2017 approximately 1.992 billion gallons of impacted water has been treated. The mass of selenium removed from December 2017 through April 2020 is approximately 2,056 pounds.

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Upcoming Activities

The following activities associated with the Phase 2 Pilot Study are planned through May 2020:

- Continue system monitoring in accordance with the sampling and analysis plan.

Please contact me if there are questions regarding this monthly progress report.

Sincerely,

Jeffrey Hamilton
Environmental Engineer

cc:

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Table 1
Laboratory Results Focused Analyte List

Hoopes Springs Water Treatment Plant Pilot Study
Phase 2, Performance Monitoring

		Week 111			Week 113		
Station >>		Influent	Ultra Filtration Backwash	Effluent	Influent	Ultra Filtration Backwash	Effluent
Sample ID >>		SC0420-LSSHS-IN001	SC0420-LSSHS-UFB001	SC0420-LSSHS-EF001	SC0420-LSSHS-IN002	SC0420-LSSHS-UFB002	SC0420-LSSHS-EF002
Date >>		4/1/2020			4/15/2020		
Analyte	**Units**						
General Chemistry							
Ammonia, as N	mg/L	0.026 U	0.026 U	0.026 U	0.026 U	0.026 U	0.026 U
Biochemical Oxygen Demand	mg/L	2 U	2 U	2 U	2 U	2 U	2 U
TSS	mg/L	2 U	2 U	2 J	2 U	2 U	2 J
Nutrients							
Nitrate, as N	mg/L	0.35	0.19	0.48	0.32	0.21	0.66
Sulfide	mg/L	1 U	1 U	1 U	1 U	1 U	1 U
Phosphorus, Total	mg/L	0.0222	0.037	0.706	0.0158	0.0144	0.257
Metals and Metalloids							
Selenium, Dissolved	mg/L	0.181	0.0329	0.0241	0.177	0.0684	0.0278
Selenium, Total	mg/L	0.169	0.0323	0.0268	0.17	0.0675	0.0271

		Week 115		
Station >>		Influent	Ultra Filtration Backwash	Effluent
Sample ID >>		SC0420-LSSHS-IN003	SC0420-LSSHS-UFB003	SC0420-LSSHS-EF003
Date >>		4/29/2020		
Analyte	**Units**			
General Chemistry				
Ammonia, as N	mg/L	0.026 U	0.026 U	0.026 U
Biochemical Oxygen Demand	mg/L	2 U	2 U	2 U
TSS	mg/L	2 U	2 U	2 U
Nutrients				
Nitrate, as N	mg/L	0.51	0.2	1.34
Sulfide	mg/L	1 U	1 U	1 U
Phosphorus, Total	mg/L	0.0356	0.0294	0.169
Metals and Metalloids				
Selenium, Dissolved	mg/L	0.164	0.0328	0.0309
Selenium, Total	mg/L	0.151	0.0312	0.029

Notes
Results presented are preliminary, and have not been validated at the time of this report.
U - Analyte not detected above the method detection limit (MDL).
J - Result is estimated.

Table 2
Field Water Quality Data

Hoopes Springs Water Treatment Plant Pilot Study
Phase 2, Performance Monitoring

		Parameter >>	Dissolved Oxygen	ORP	pH	SC	Temperature	Turbidity
		Units >>	mg/L	mV	SU	umhos/cm	C	NTU
Station	**Sample ID**	**Date**						
Week 111								
Influent	SC0420-LSSHS-IN001	4/1/2020	10.88	187	7.28	520	13.25	0.3
Ultra Filtration Backwash	SC0420-LSSHS-UFB001	4/1/2020	6.95	168	7.4	170	13.31	2
Effluent	SC0420-LSSHS-EF001	4/1/2020	8.41	190	6.94	491	13	0.6
Week 113								
Influent	SC0420-LSSHS-IN001	4/15/2020	13.2	80	7.03	509	14.83	0.8
Ultra Filtration Backwash	SC0420-LSSHS-UFB001	4/15/2020	8.92	91	7.04	249	14.1	1.5
Effluent	SC0420-LSSHS-EF001	4/15/2020	9.69	84	7.01	500	13.9	0.7
Week 115								
Influent	SC0420-LSSHS-IN003	4/29/2020	8.56	64	6.96	523	13.13	1.1
Ultra Filtration Backwash	SC0420-LSSHS-UFB003	4/29/2020	7.68	108	6.5	166	13.74	1.8
Effluent	SC0420-LSSHS-EF003	4/29/2020	7.29	99	6.33	524	13.38	0.7

Notes: